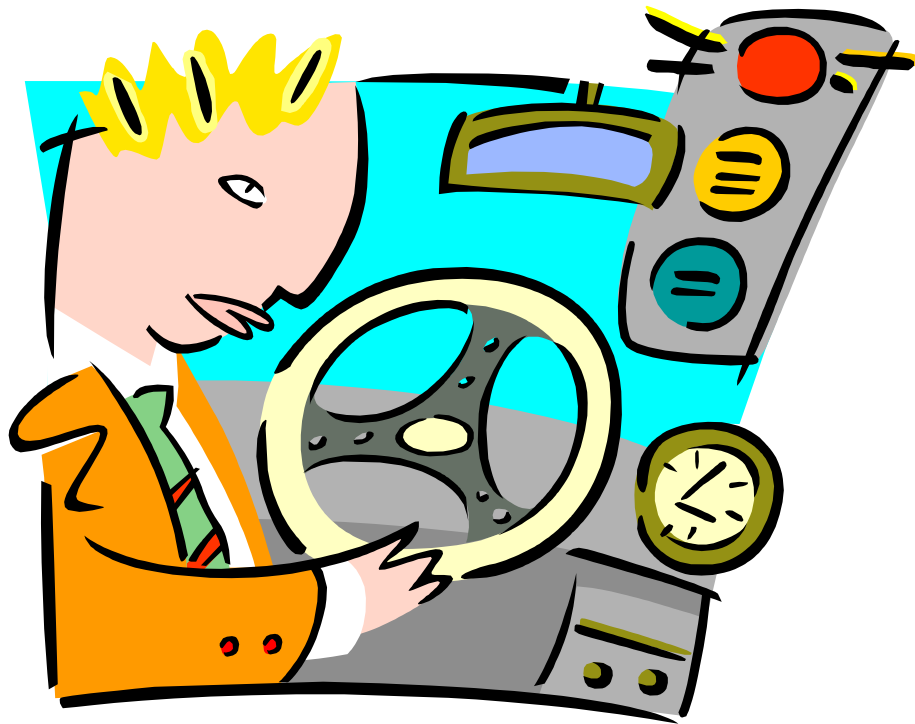


# Michigan Driver Behavior and Awareness Action Plan



## Governor's Traffic Safety Advisory Commission

Member agencies:

Michigan Department of Transportation  
Office of Highway Safety Planning  
Michigan Department of State  
Michigan State Police  
Office of Services to the Aging  
Michigan Department of Education  
Michigan Department of Community Health

2006-2008

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## ***Introduction***

In 1998, the American Association of State Highway and Transportation Officials (AASHTO) approved its Strategic Highway Safety Plan, which was developed by the AASHTO Standing Committee for Highway Traffic Safety with the assistance of the Federal Highway Administration, the National Highway Traffic Safety Administration, and the Transportation Research Board Committee on Transportation Safety Management. The plan includes strategies in 22 key emphasis areas that affect highway safety. The plan's goal is to reduce the annual number of highway deaths by 5,000 to 7,000. Each of the 22 emphasis areas includes strategies and an outline of what is needed to implement each strategy.

NCHRP Project 17-18(3) is developing a series of guides to assist state and local agencies in reducing injuries and fatalities in targeted areas. The guides correspond to the emphasis areas outlined in the AASHTO Strategic Highway Safety Plan. Each guide includes a brief introduction, a general description of the problem, the strategies/countermeasures to address the problem, and a model implementation process. <http://safety.transportation.org/guides.aspx>

The Michigan Driver Behavior and Awareness Action Plan (MDBAAP) was created in part by using information contained in three guides directly related to driver behavior and awareness issues:

Volume 1: A Guide for Addressing Aggressive-Driving Collisions

Volume 2: A Guide for Addressing Collisions Involving Unlicensed Drivers and Drivers with Suspended or Revoked Licenses

Volume 14: A Guide for Reducing Crashes Involving Drowsy and Distracted Drivers

## ***Action Plan Development***

A Strategic Highway Safety Plan should define a system, organization, and process for managing the attributes of the road, the driver, and the vehicle to achieve the highest level of highway safety by integrating the work of disciplines and agencies involved. These disciplines include the planning, design, construction, operation, and maintenance of the roadway infrastructure (engineering); injury prevention and control (emergency response services), health education; and those disciplines involved in modifying road user behaviors (education and enforcement).

The development of the strategic highway safety plan was commissioned by Michigan's Governors Traffic Safety Advisory Commission (GTSAC) in October 2004. The GTSAC consists of the Governor (or a designee), the Directors (or their designees) of the Departments of Community Health, Education, State, State Police, and Transportation, the Office of Highway Safety Planning, the Office of Services to the Aging, and three local representatives from the county, city, and township level.

Driver Behavior issues were identified as an emphasis area in the both AASHTO and GTSAC Strategic Highway Safety Plans. A sub-committee consisting of a multi-disciplinary group of agencies and disciplines was formed and conducted a kick off meeting on April 5, 2005. Issues and strategies from the national and state agenda were carried forward into the Michigan plan, as well as other issues and strategies not mentioned in the national plan.

## ***The Issue: Driver Behavior***

The Driver Behavior & Awareness workgroup has identified four specific areas of driver behavior to addressing: Aggressive Driving, Distracted Driving, Drowsy (or Fatigued) Driving and Careless (or Negligent) Driving. This action plan offers possible strategies for impacting each area.

“Aggressive driving” is operating a motor vehicle in a selfish, pushy, or impatient manner, often unsafely, that directly affects other drivers. In many cases, the behavior results from interaction between the driver and the driving environment. For this reason, resolving the problem lies not only with enforcement but also with education and engineering. Media portrayals and political responses to the problem have sometimes created confusion as to what aggressive driving really is. There is a difference between aggressive driving and “road rage.” The latter is criminal behavior employing a car as a weapon, or involving assault arising from driving confrontations. Moreover, many of the documented cases of road rage may have arisen from earlier acts of aggressive behavior on the road.

”Distracted Driving” covers a full range of distractions that can lead to crashes – rubbernecking, adjusting the radio, attending to children, talking to a passenger, eating and drinking, using a mobile phone, reading – all are activities that divert the driver’s attention from the driving task. All place the driver, passengers and others on the road at risk. Safety data reveal that distracted driving is a serious safety issue. Distracted drivers are a factor in 25-50% of all vehicle crashes, which means of the 6.5 million crashes reported each year, at least 1.5 million are related to distracted drivers



“Drowsy (or Fatigued) Driving” relates to a basic physiological state brought on by the restriction or interruption of sleep. Crashes resulting from drowsy driving are more likely to occur at night or in mid-afternoon, times when people have a natural propensity to sleep. They are also more likely to involve a single vehicle running off the roadway, to occur on higher-speed roadways and result in serious injuries. Sleepiness and driving would never be a problem if people would not drive while sleepy. In a survey of New York State drivers, 55% admitted that they had driven while drowsy in the past year. NHTSA estimates that drowsiness is the primary causal factor in 100,000 police reported crashes each year, resulting in 76,000 injuries and 1,500 deaths.

### **“Careless (or Negligent) Driving**

According to the Michigan Vehicle Code: 257.626b: "A person who operates a vehicle upon a highway or a frozen public lake, stream, or pond or other place open to the general public including an area designated for the parking of vehicles in a careless or negligent manner likely to endanger any person or property, but without wantonness or recklessness, is responsible for a civil infraction."

<http://www.michigan.gov/roadrage>

Nationally more than 60% of drivers see unsafe driving by others as a major personal threat to themselves and their families. The problem of unsafe driving is becoming more prevalent and is increasing in severity. Addressing inappropriate or hazardous driver behavior is a critical factor in reducing fatal and serious injury crashes. Unsafe driving behavior may include but is not limited to: aggressive driving, excessive speeding, railroad grade crossing violations, distracted driving such as cell phone use and drowsy/fatigued driving. Therefore, enforcement, engineering, and education should be emphasized in the corresponding strategies.

## ***DRAFT***

In Michigan, in 2003 in 50% of all crashes the driver was cited performing a hazardous action in relation to the crash. Speeding, improper lane use, unable to stop in an assured safe distance and reckless and careless driving are but just a few examples of the types of hazardous actions (or in-actions) that motorists face each day on our roadways. In addition in 45.7% of traffic fatalities the driver was observed by a law enforcement officer to have a condition other than what would be considered normal. Had been drinking, fatigue, distracted and cell phone use are again just a few examples of driver conditions at the time of a fatal traffic crash.

*Unlicensed driving (suspended, revoked, or never licensed), and riding a motorcycle without an FMVSS 218 compliant helmet were identified in the GTSAC strategic plan as driving behavior issues. This action team felt these two issues fall outside of the general scope of driver behavior issues in relation to this specific strategic plan and those issues should be addressed by other action teams/plans.*

### ***Vision***

All roadway users arrive safely at their destinations

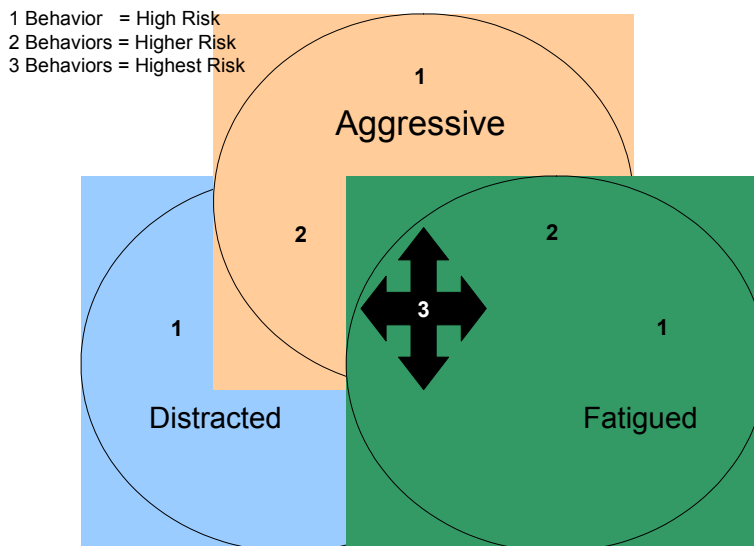
### ***Mission***

Provide proven engineering, enforcement and educational solutions to the traffic safety community to be able to address and resolve driver behavior and awareness issues

### ***Objectives:***

- ❖ Create a comprehensive strategic plan that will set the direction and future on matters related to driver behavior and awareness issues
- ❖ Reduce the percent of crashes in which a Hazardous Action other than 'none' was noted to < 40% by 2009
- ❖ Reduce the percent of Fatal Crashes in which a Driver Condition other than 'normal' was noted to < 40% by 2009
- ❖ Reduce the percent of Injury Crashes in which a Driver Condition other than 'normal' was noted to < 10%

### **Driving Behavior Relationship Model**



## DAVE MORENA TO PROVIDE DATA TABLES/CHARTS

The table below depicts the 5 year trend in the number of crashes, fatalities, and injuries in Michigan involving either a hazardous action or driver condition (other than 'none' or 'appeared normal'). As noted there are significant numbers of crashes, fatalities and injuries in which the driver has performed a hazardous action or been of a condition not suitable for safe driving.

	HAZARDOUS ACTIONS				DRIVER CONDITIONS		
Year	Percent of Fatal Crashes	Percent of Injury Crashes	Percent of PDO Crashes		Percent of Fatal Crashes	Percent of Injury Crashes	Percent of PDO Crashes
2000	54.2%	52.3%	47.7%		N/A	N/A	N/A
2001	60.8%	54.8%	50.0%		50.1%	12.2%	10.0%
2002	60.6%	54.6%	50.2%		50.2%	12.2%	10.1%
2003	58.0%	54.0%	48.4%		45.7%	12.1%	9.9%
2004	60.8%	55.5%	50.8%		47.6%	12.4%	10.0%

Hazardous Actions: None, Speed too fast, Speed too slow, Failed to yield, Disregard traffic control, Drove wrong way, Drove left of center, Improper passing, Improper lane use, Improper turn, Improper/no signal, Improper backing, Unable to stop in assured, Reckless driving, Careless/negligent driving, Unknown

Driver Conditions: Had Been Drinking, Illegal Drug Use, Sick, Fatigue, Asleep, Medication, Driver Distracted, Using Cellular Phone, Unknown (appeared normal is a driver condition, but was not included in this analysis)

### Michigan Driver Behavior Safety Goals

The goal of the MDBAAP is to outline a course of action that, when followed, targets a reduction in the number and severity of hazardous action and driver condition related crashes in Michigan by 2009, as follows:

- ❖ Percent of crashes in which a Hazardous Action other than 'none' was noted to < 40%
- ❖ Percent of Fatal Crashes in which a Driver Condition other than 'normal' was noted to < 40%
- ❖ Percent of Injury Crashes in which a Driver Condition other than 'normal' was noted to < 10%
- ❖ Percent of PDO Crashes in which a Driver Condition other than 'normal' was noted to < 8%

	HAZARDOUS ACTIONS				DRIVER CONDITIONS		
Year	Percent of Fatal Crashes	Percent of Injury Crashes	Percent of PDO Crashes		Percent of Fatal Crashes	Percent of Injury Crashes	Percent of PDO Crashes
2005	55.7%	51.8%	48.3%		45.9%	11.8%	9.5%
2006	50.9%	48.5%	45.9%		44.3%	11.2%	9.0%
2007	46.6%	45.3%	43.6%		42.8%	10.6%	8.6%
2008	42.6%	42.4%	41.4%		41.3%	10.1%	8.1%
2009	39.0%	39.6%	39.3%		39.8%	9.6%	7.7%
Per year change	8.5%	6.5%	5%		3.5%	5%	5%

*Note: For analysis purposes only, an assumption was made that a constant reduction is achieved*

**This would result in the reduction of over 79,000 hazardous action crashes, fatalities and injuries and over 13,000 Driver Behavior crashes, fatalities, and injuries.**

## **Societal Benefit Analysis**

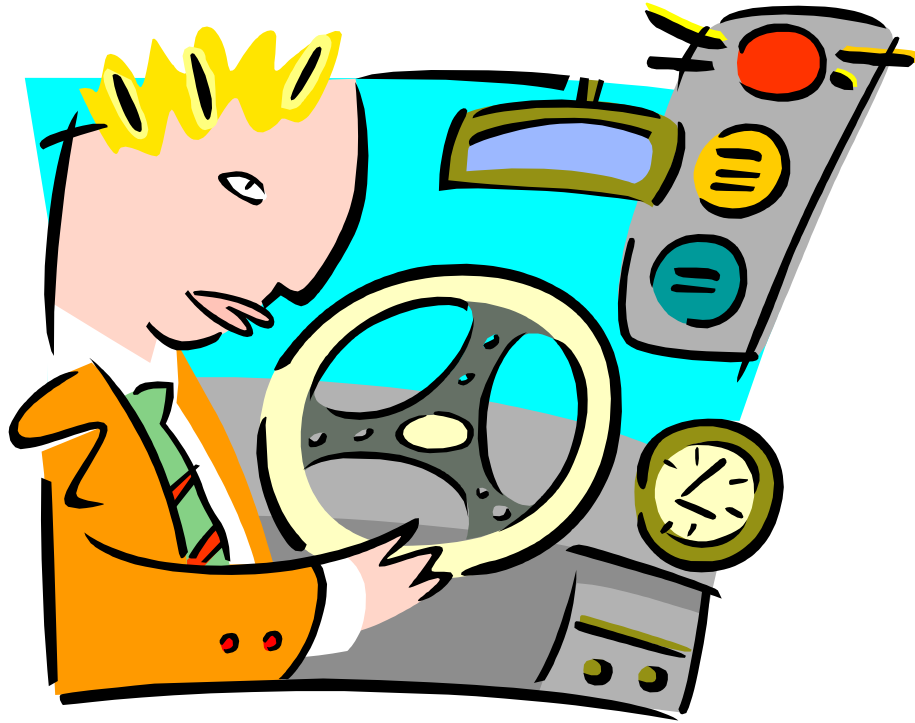
Achieving a reduction in the number of hazardous action crashes, fatalities and injuries as described above, in five years would result in saving approximately 379 lives, 21,291 injuries and 57,464 property damage only (PDO) crashes.

Achieving a reduction in the number of driver condition action crashes, fatalities and injuries at described above, in five years would result in saving approximately 129 lives, 3,606 injuries and 10,021 property damage only (PDO) crashes.

The National Safety Council estimates that the calculable cost of each highway crash fatality is \$1,090,000. Non-fatal disabling injuries are estimated to cost \$49,900, and the cost for minor injuries/property damage are estimated to be \$6,200.

Eliminating 508 deaths attributed to driver behaviors in Michigan over five years would save more than \$550 million. The associated reduction of injuries and property would save over \$1.6 billion.

# Michigan Driver Behavior Strategies



*This action plan suggests several strategies for addressing the problems. These strategies combine the elements of enforcement, education, and engineering. The strategies are suggested recognizing that, with few exceptions, programs that depend upon only one of these elements are not likely to be successful.*



## ENGINEERING & ROADWAY MANAGEMENT

### Objective:

Improve the driving environment to eliminate or minimize the external "triggers" of aggressive driving, reduce distractions (both inside and outside of the vehicle) to the extent possible as well as providing vehicle and roadway "alarm" systems to alert drowsy or careless drivers (i.e. rumble strips, electronic driver prompts for lane use and tailgating via intelligent vehicle systems, etc.).

### Strategies:

Engineering is an integral part of addressing aggressive driving. A broadening of the role of engineering to correct aggressive driving is needed along with recognizing that a team of traffic safety experts needs to address all facets of driving.

#### Engineering

- ❖ Proper signal timing
- ❖ Lane and roadway signs/markers
- ❖ Appropriate speed limits
- ❖ Congestion management
- ❖ Providing real time information on traffic situations (i.e., lane closures...etc).
- ❖ Work Zone management

### Resources:

Michigan Department of Transportation: [www.michigan.gov/mdot](http://www.michigan.gov/mdot)

County Road Association of Michigan: [www.micountyroads.org](http://www.micountyroads.org)

AASHTO: <http://transportation1.org/aashtonew/>

NHTSA: <http://www.nhtsa.dot.gov/>

FHWA: <http://www.fhwa.dot.gov/index.html>

MVMAA: Could not find website?



## EDUCATION

### **Objective:**

Deter aggressive, distracted, drowsy and careless driving in specific populations, including those with a history of such behavior, and at specific locations

### **Strategies:**

#### Public information and education (PI&E)

- ❖ Targeted enforcement is an active component
- ❖ Programs should employ multimedia and multi-audience approaches
- ❖ Communicate driver behavior crash facts (e.g., demonstrate and illustrate the gravity of consequences of various driver behaviors).
- ❖ Develop a communication plan to disseminate information to officials in state and local agencies and to the public
- ❖ Publicize the Michigan Driver Behavior and Awareness Action Plan (MDBAAP) at forums, meetings and seminars.
- ❖ Develop a statewide media campaign that can be used by local agencies that includes a media strategy, increases public awareness through editorials, radio, public service announcements, etc, uses media to provide safety arguments for enforcement activity and uses information on best practices/approaches from states and locals to enhance media campaign materials.
- ❖ Include a breakout session at the annual Traffic Safety Forum hosted by MDOT and OHSP.

### **Resources:**

*Office of Highway Safety Planning:* [www.michigan.gov/ohsp](http://www.michigan.gov/ohsp)

AAA Foundation for Traffic Safety: [www.aaafoundation.org](http://www.aaafoundation.org)

National Sleep Foundation: [www.sleepfoundation.org](http://www.sleepfoundation.org)

## ENFORCEMENT

### **Objective:**

Deter aggressive, distracted, drowsy and careless driving especially those demographics with a history of such behavior, and at specific locations

### **Strategies:**

Expand traditional enforcement activities to include “Driver Behavior” issues

#### Enforcement actions

- ❖ Include enforcement in the discussions when analyzing engineering and educational countermeasures
- ❖ Determine where driver behavior issues are happening
- ❖ Set appropriate and enforceable speed limits

### **Resources:**

Michigan State Police: [michigan.gov/msp-traffic](http://michigan.gov/msp-traffic)

International Association of Chiefs of Police: [www.theiacp.org/](http://www.theiacp.org/)

Michigan Association of Chiefs of Police: [michiganpolicechiefs.org/page.cfm/1/](http://michiganpolicechiefs.org/page.cfm/1/)

PAAM: <http://paamtrafficsafety.com/>

TEAM: <http://www.michigantrafficteam.com>

## JUDICIAL

### **Objective:**

Deter aggressive, distracted, drowsy and careless driving especially those demographics with a history of such behavior, and at specific locations

### **Strategies:**

The National Safety Council has developed an Attitudinal Defensive Driver Education course that is intended to reach the habitual traffic violator. The habitually aggressive driver, in particular, may benefit from this approach. However, this program has not been evaluated for effectiveness either generally or specifically for aggressive drivers.

- ❖ Identify and promote effective judicial best practices

### **Resources:**

Michigan Legislative Information: [michiganlegislature.org](http://michiganlegislature.org)

State Court Administrators Office: [www.courts.michigan.gov/scao/index.htm](http://www.courts.michigan.gov/scao/index.htm)

## ACRONYMS

AAA	American Automobile Association
AASHTO	American Association of State Highway and Transportation Officials
FHWA	Federal Highway Administration
GTSAC	Governor's Traffic Safety Advisory Commission
MDBAAP	Michigan Driver Behavior & Awareness Action Plan
MDE	Michigan Department of Education
MDOS	Michigan Department of State
MDOT	Michigan Department of Transportation
NCHRP	National Cooperative Highway Research Program
NHI	National Highway Institute
OHSP	Office of Highway Safety Planning
PDO	Property Damage Only crash
PI&E	Public Information and Education
PSA	Public Service Announcement

## *Acknowledgements*

*This document could not have been made possible without the guidance, planning, dedication and knowledge of the following individuals and their organizational support:*

<i>Shaun Bates</i>	<i>Michigan Department of Transportation</i>
<i>Jim Culp</i>	<i>Michigan Department of Transportation</i>
<i>Dick Miller</i>	<i>AAA Michigan</i>
<i>Dave Morena</i>	<i>Federal Highway Administration</i>
<i>Sue Mynsberge</i>	<i>Michigan Department of State</i>
<i>Thad Peterson</i>	<i>Michigan Department of State Police</i>
<i>Steve Schreier</i>	<i>Office of Highway Safety Planning</i>
<i>Deb Schrauben</i>	<i>Michigan Department of State Police</i>
<i>Dave Wallace</i>	<i>Prosecuting Attorney's Association of Michigan</i>